OR-HD22S

v1.3 HDMI 2 x 2 Matrix Switcher

OPERATION MANUAL

Precautions

Failure to follow the precautions described below may cause damage to this v1.3 HDMI Matrix and void the warranty.

- DO NOT open the case. This will void the warranty, if you find a problem with this product, please return it to your retailer or seller who will assist you or provide you with a solution.
- DO NOT use third-Party AC adaptors or power cords. This may damage the Matrix.
- DO NOT bump, jar or drop the product because it may cause damage and void the warranty.
- DO NOT allow liquids to come into contact with the Matrix because they may cause damage.

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1. Introduction

Thank you for purchasing this HDMI V1.3 Matrix. As HDMI products become increasingly popular, users often have multiple HDMI sources and displays. This HDMI matrix provides an excellent and convenient solution for connecting all of your HDMI equipment. You can select which source to view on each display using the remote control. This matrix can also transfer deep colour video and bitstream audio with maximum performance. It supports HDMI 1.3, HDCP 1.1 and DVI 1.0.

Please follow this manual to start enjoying the benefits of this Matrix. We suggest you keep it in a safe place for future reference.

2. Application

- Multi-source / multi-display control.
- Home entertainment integration.
- Multi-task project presentation.
- Showroom Display.
- Advertising display control.

3. Package Contents

- 2 by 2 v1.3 HDMI Matrix.
- Remote Control CR33 (with Battery)
- IR Receiver
- Power Cord
- 5V DC power supply adaptor.
- Operation Manual.

4. System Requirements

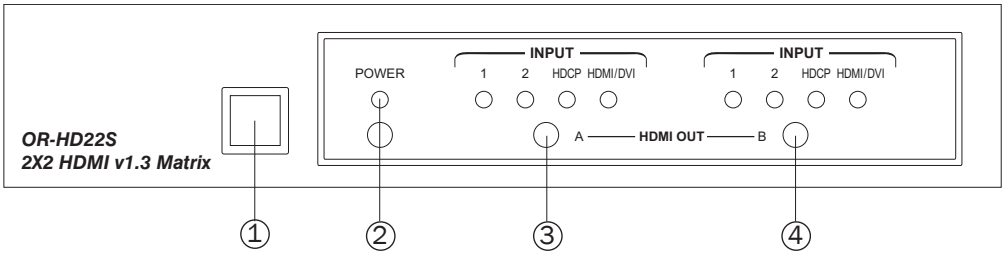
HDMI source device(s) and HDMI display device(s).

5. Features

- v1.3HDMI, HDCP 1.1 and DVI 1.0 compliant.
- Supports digital video formats in Deep Color (12bit) and new lossless digital audio (Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio).
- The HDMI input is compensated, clock / phase adjusted and jitter eliminated so the output is a brand new standard HDMI signal.
- LEDs on each output illuminate to indicate which input is selected.
- Compatible with all HDMI sources and displays.
- Supports a wide range of PC and HDTV resolutions, from VGA to UXGA and 480i to 1080p including 1080p24fps.
- Supports RS-232 control.
- Supports IR remote control and IR extender.
- Dolby Digital, DTS digital audio transmission (32-192 kHz Fs sample rate).
- Supports LPCM 7.1 channel audio from each independent HDMI output.
- At 1080p/8-bit & 12-bit resolution, the Input/ Output can run up to 15/15 metres.
- Switchable EDID function, choose between built in EDID or read the external EDID of connected display.
- The HDCP and HDMI/DVI LEDs will illuminate accordingly to define the input source's format.
- When HDMI signal progresses through the system, it is re-timed, and level-compensated.
- High performance v1.3 HDMI Matrix with two inputs,two outputs and remote control allowing you to link all your favourite HDMI devices and enjoy your music, movies and games.

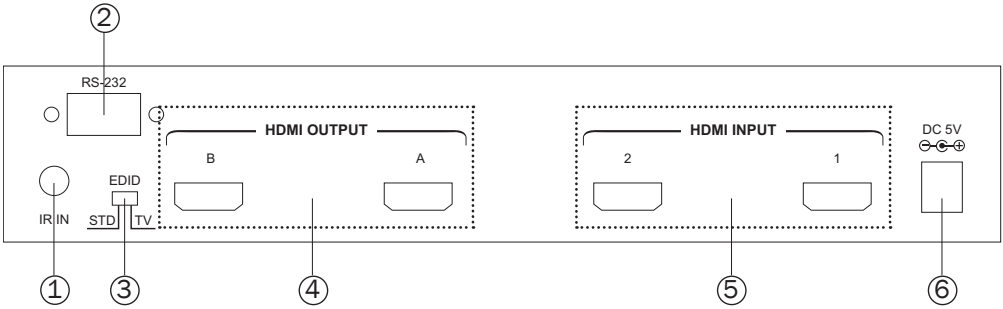
6. Operation Controls and Functions

6.1 Front Panel



1. Remote control sensor.
2. Power button & LED Indicator: Press the button to turn the unit on/off. The LED lights green when power is on and red when the power is off.
3. Input select 'A' button/indicators: Press this button repeatedly to cycle through your inputs and select which source to route to the HDMI A output. When the source is connected via HDMI the HDMI/DVI LED will illuminate. If the source is connected via a DVI adaptor then the light will remain off. When the input source has HDCP copy protection implemented the HDCP light will illuminate.
4. Input select 'B' button/indicators: Press this button repeatedly to cycle through your inputs and select which source to route to the HDMI B output. When the source is connected via HDMI the HDMI/DVI LED will illuminate. If the source is connected via a DVI adaptor then the light will remain off. When the input source has HDCP copy protection implemented the HDCP light will illuminate.

6.2 Rear Panel



1. IR IN: Place the IR receiver end of cable in front of your display and connect jack end to IR input, you can then use the supplied remote control to switch sources when the matrix is out of sight.
2. RS-232: Connect the COM port of your PC for distant control via RS-232. Commands and settings can be found in section 8 of this manual.
3. EDID control switch: setting is either: STD(internal) or TV(external)*

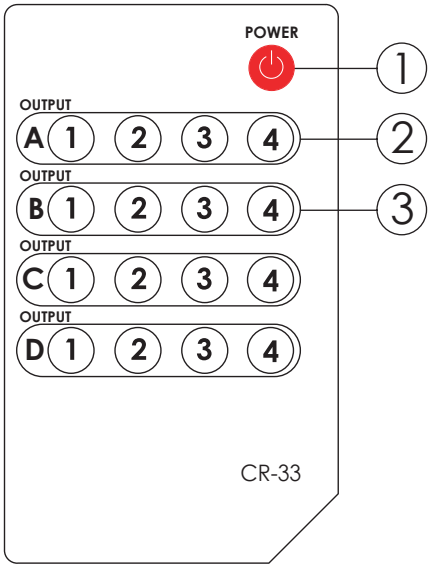
*Note:
Please Leave the EDID switch in the default factory setting of 'TV' if the displays are working correctly, the unit will read the EDID data from display connected to the first hdmi output and store it. If the first device is connected via a DVI adaptor, the matrix will move on to the second output to check for a HDMI connection. The detection priority of the matrix is v1.3 HDMI, v1.2 HDMI, DVI. If you experience any display problems with the EDID switch in the TV position, you can set the EDID switch to STD, the unit will then use its built in EDID which supports 1080p 12bit(max) video (does not support xvYCC) and pcm 2 channel audio.
Please note that If you change the EDID switch's setting on the Matrix then you have to reboot (power off, unplug and turn on again) for your selection to take effect.

4. HDMI OUTPUTS A&B: Connect each of these output ports to a HDMI display. The device supports repeater function and each output port can supports 16 key sets of KSV and 2 outputs can support a total of 32 key sets of KSV.
5. HDMI INPUT 1 & 2: Connect these input ports to HDMI or DVI (via adaptor, not supplied) outputs of your source equipment such as DVD player or set-top-box.
6. DC 5V: Plug the 5V DC power supply into the unit and connect the adaptor to an AC wall outlet.

7. Remote Control

1. Power: Press the button to turn the unit On/Off.
2. Input Select for HDMI OUT ‘A’: Press 1 or 2 to select the required input source for HDMI OUT A.
3. Input Select for HDMI OUT ‘B’: Press 1 or 2 to select the required input source for HDMI OUT B.

*Note: buttons labeled C&D have no effect on this model



8. RS-232 Protocol

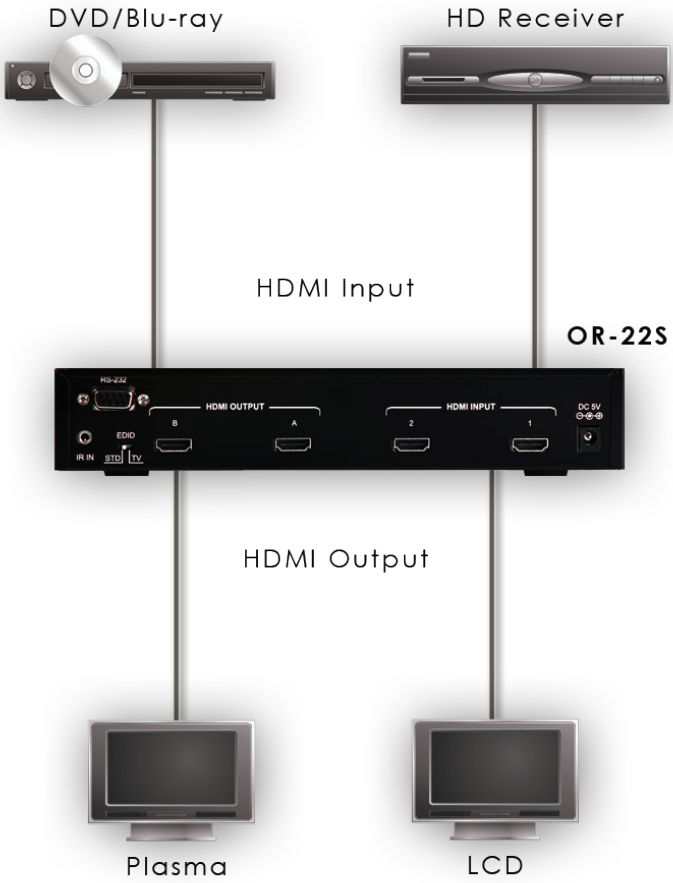
OR-HD22S			Remote Control Console	
PIN	Definition		PIN	Definition
1	NC		1	NC
2	Tx		2	Rx
3	Rx	→	3	Tx
4	NC		4	NC
5	GND		5	GND
6	NC	←	6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

Baud Rate: 9600bps
Data bit: 8bits
Parity: None
Stop bit: 1bit
Flow Control: None

8.1 Command Sets

COMMAND	ACTION
POWER 00	Power Off (standby)
POWER 01	Power On
PORT 11	Output A select Input 1
PORT 12	Output A select Input 2
PORT 13 (No Function)	
PORT 14 (No Function)	
PORT 21	Output B select Input 1
PORT 22	Output B select Input 2
ST	Display the current matrix status and F/W version

9. Connection Diagram



10. Specifications

Frequency bandwidth	2.25Gbps (single link)
Input ports	2 x HDMI female ports,
Output ports	2 x HDMI female ports
EDID	Standard, TV/Moving Port 1
HDMI Audio output	PCM2, PCM5.1, PCM7.1, Dolby5.1, DTS5.1, Dolby Digital+, Dolby TrueHD, DTS-HD
HDMI Cable in	1080p 8bit (15M), 1080p 12bit (15M)
HDMI Cable out	1080p 8bit (15M), 1080p 12bit (15M)
Color Space	RGB_24/36,YCbCr 4:4:4_24/36, YCbCr 4:2:2,xvycc
IR	Yes
Deep Color	1080p 12bit
HDMI Resolution	480I~1080p 50/60, 1080p 24, VGA~UXGA
DVI Resolution	480I~1080p 50/60, 1080p 24, VGA~UXGA
Power Supply	5VDC/3.2A (US/EU standards, CE/FCC/UL certified)
Dimensions (mm)	240(W) x 169(D) x 43(H)
Weight (g)	1260
Chassis Material	Metal
Silk Skin Color	Black
Operating Temperature	Operating from 0°C ~ 40°C
Power Consumption	9W(Max)

Notes:

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